For Authorized
Service Personnel Only:

Eagle 800 Series III Service Manual

DSS-10621-03 Rev. A00

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To re-order this document, request part number DSS-10621-03

FCC Notice

This equipment has been assembled using components that have been certified under a Declaration of Conformity to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult your reseller or an experienced radio/TV technician for help.

Canadian Department of Communications Compliance Statement

This equipment does not exceed Class A limits per radio noise emissions for digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications. Operation in a residential area may cause unacceptable interference to radio and TV reception requiring the owner or operator to take whatever steps are necessary to correct the interference.

Avis de Conformité aux Normes du Ministère des Communications du Canada

Cet équipment ne deapsse pas les limits de Classe A d'émission de bruits radioélectriques pour les appareils numeriques tels que prescrites par le Règlement sur le brouillage radioélectrique établi par le ministère des Communications du Canada. L'exploitation faite en milleu résidential peut entrainer le brouillage des réceptions radio et tele, ce qui obligerait le propriétaire ou l'opératour à pendre les dispositions nécessaires pour en éliminer les causes.

Battery Warning

CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

ATTENTION: Il y a danger d'explosion s'il y a replacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type recommandé par le constructeur. Mettre au rébut les batteries usagées conformément aux instructions du fabricant.

This computer contains a 3-volt lithium battery. When necessary, replace the battery with CR2032 type only. Use of other batteries may present a risk of fire or explosion. Replacement batteries may be ordered from your authorized Alpha Micro reseller.

Electrical Warning

This equipment contains components that can be damaged by static electricity. Follow all electronic discharge precautions when handling the equipment. For example, touch the metal back panel of the CPU or peripheral chassis to dissipate any electrical charge before touching the circuit boards or equipment within the chassis. After turning off power, before you open your computer chassis, unplug the cord from the electrical outlet to guard against electrical shock.

SOFTWARE SECURITY DEVICE IDENTIFICATION NUMBER: _____

The Alpha Micro Software Security Device (SSD) is a customized integrated circuit that personalizes the computer, providing identity verification for it. Certain Alpha Micro and non-Alpha Micro software may require that your computer contain an SSD in order to run software that has been customized to run only on your computer.

Please enter the identification of your SSD above. The SSD identification number should be on your computer ID label under "SSD Serial No." (Another way of finding the number is to look at the SSD itself. The SSD is located in an integrated circuit location on the Eagle 800 Multifunction I/O board; its identification number is printed on the SSD itself.) Software vendors may ask you for the SSD number if they are customizing software to run only on your computer.

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INTRODUCTION

This document contains instructions that are intended only for authorized service personnel. Eagle 800 computers contain a high-output power supply, which produces current levels high enough to make it unsafe for unauthorized persons to perform work inside the chassis.

This document describes the Eagle 800 Series III computer package in the deskside chassis. It covers the following procedures:

- Removing your computer's side panel.
- Electronic equipment handling precautions.
- Printed circuit board configuration options.
- Installing memory.
- Peripheral installation.
- Drive replacement or adding another drive
- Restoring the System Volume Software
- Eagle 800 Series III Optimal BIOS Settings

ACCESSING YOUR COMPUTER

When adding additional equipment or servicing your computer, you will need to remove two screws on the edge of the rear panel that secures the left side panel to the rear panel, unlock the side panel by unsnapping the plastic fasteners at the rear, swing the side panel out, and remove it. This will expose the inside structure of your computer, including the power supply, main logic boards, and peripherals.

Lay the case down so that the open side is up. This will facilitate gaining access to the internal system areas.

ELECTRONIC EQUIPMENT HANDLING PRECAUTIONS

With the AC power cord unplugged and the side cover removed, the components inside your computer are vulnerable to damage caused by static discharge. Your body and clothing can store an electrical charge that can damage or destroy unprotected electronic components. Before handling any computer hardware, make sure your work area is properly protected against static discharge. There are a number of commercially available static protection devices, like the wrist strap shown in Figure 1, designed specifically to protect your equipment from harmful static discharge.

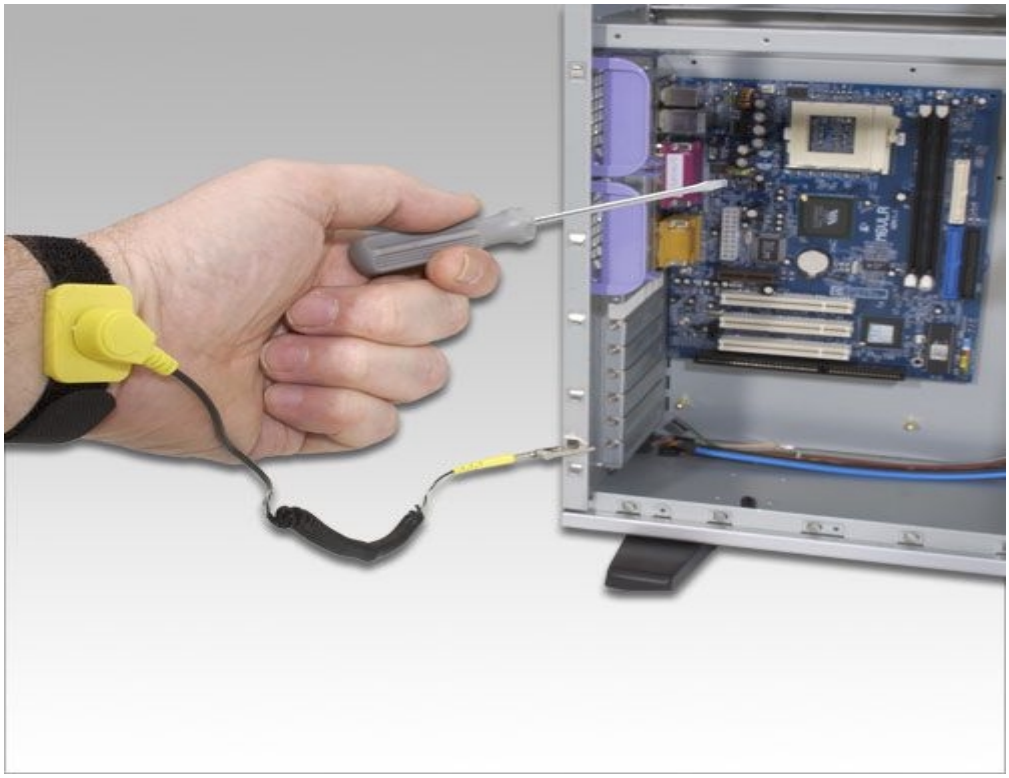

Figure 1: Static Protection Wrist Strap

HARDWARE CONFIGURABLE OPTIONS

The following sections summarize the configuration options available to let you tailor your hardware to your needs. Most of these options require access to the main circuit boards inside the computer, and should be performed only by qualified technical personnel. Contact your VAR if you need assistance.

Printed Circuit Board Configuration

Eagle 800 Series III CPU Board

The Eagle 800 Series III CPU board is the primary board of the system. Most other boards contained in the system actually plug into the CPU board, including the memory DIMMs, the multifunction I/O board, and other special function boards. This board also contains the following circuitry:

- One Athlon 64 high speed processor (socket AM2)
- Controller and connector for ATA-133/100/66/33 compatible peripherals
- Integrated SATA controller with four SATA disk drive connectors
- Integrated Ethernet controller, 10/100/1000 Mbps operation
- Four DDR2 DIMM sockets for support of up to 16GB of PC6400 SDRAM
- Two 9-pin serial I/O ports (with modem control)
- One 25-pin SPP/ECP/EPP parallel port
- Eight USB 2.0 compliant ports

- Integrated video graphics controller for system display console
- PS/2 keyboard and mouse ports
- CPU temperature and voltage monitoring
- Seven PCI slots (Four 32 bit PCI, One PCI Express x16, and Two PCI Express x1) for optional SCSI controller, additional serial I/O and other specialized functions.

Eagle 800 Series III CPU Board Configuration

Figure 2 shows the Eagle 800 Series III CPU board configured as shipped by Alpha Micro. The standard jumper positions are listed along side the figure. All jumpers should be left in their factory-configured positions.

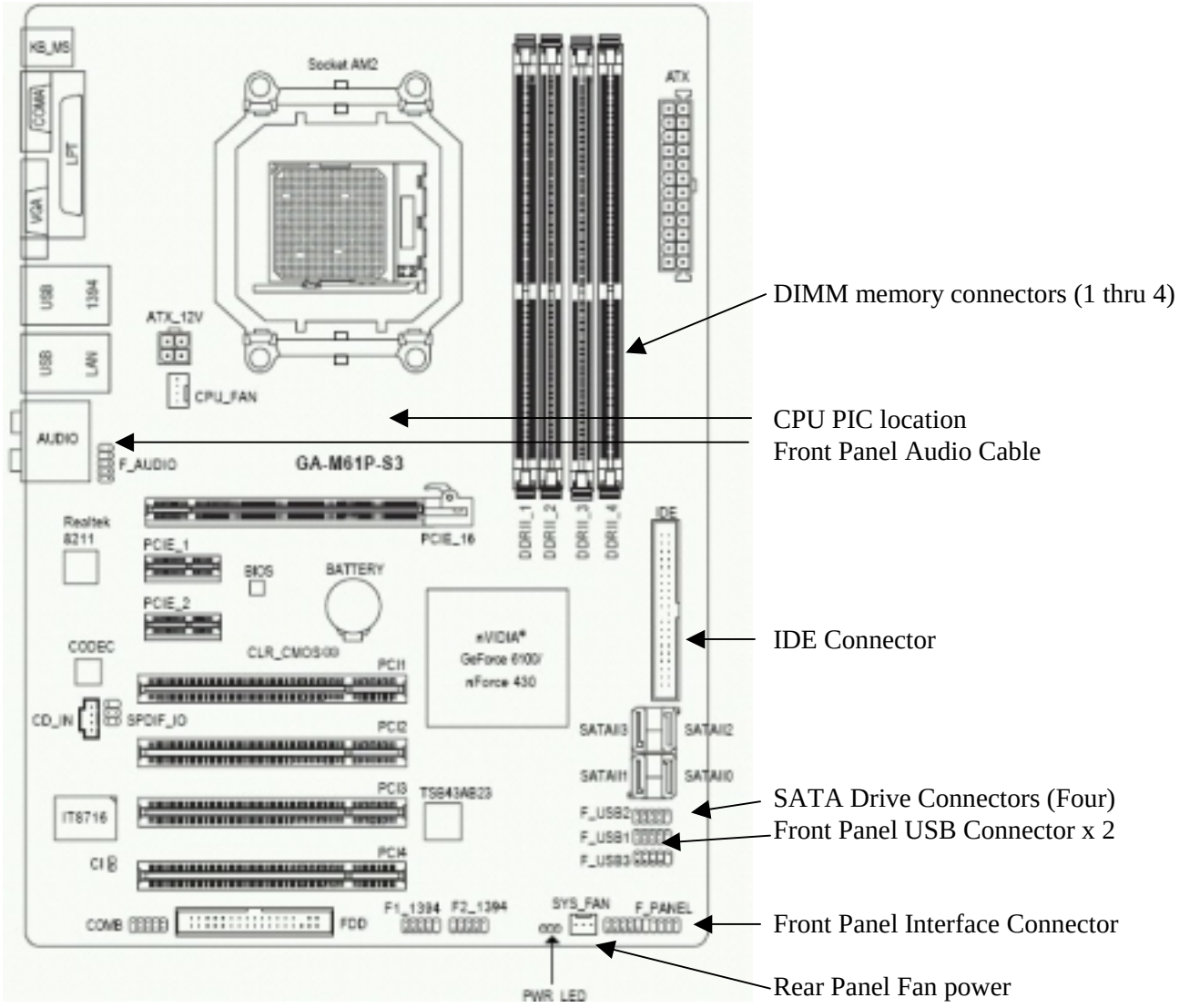

Figure 2: Eagle 800 Series III CPU Board Configurations

The front panel indicator and control connectors are shown in Figure 3.

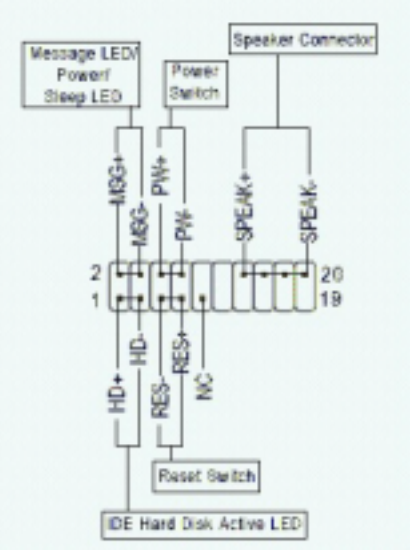

Figure 3: Front panel connections

If you ever need to replace the Eagle 800 Series III CPU Board, you will need to enter the 12 digit CPU PIC number into the AM8000 Configuration screen. The CPU PIC number is located on the CPU board as shown in Figure 2. Write this CPU PIC number down before installing the CPU board. The first time you boot up the Eagle 800 after replacement of the CPU board, follow the procedure in the AMOS 8.x Server Owner's manual, Appendix F or use the procedure below to identify the new CPU board to the system software:

- Once the Eagle 800 starts to boot, depress the CTRL C key combination for the boot job (VTM1) and make sure the job is at command level. Make sure the EAMOS.INI file is in "CPU PIC mode", not in "Shipping mode". Then restart AM8000 program.

- Depress the ALT/TAB key combination on the keyboard to display the *AM8000 System Diagnostic window*.

- Mouse click on *Configure*. The AM8000 configuration screen will be displayed.

- Move the mouse cursor over the "*Magic Code*" input box, click inside the box, and type in the 12-digit number of the CPU PIC you wrote down previously from the label on the new CPU board.

- Depress RETURN on the keyboard. After a short period of time, if the CPU PIC installation was successful, you should see the message *"Verification passed"*. If you typed the wrong 12-digit number, the following error message should appear:

?Magic code verification failed - please re-enter OK

If this happens and you did not make a mistake typing the 12-digit number, restart the system and verify the CMOS settings and then retry installing the CPU PIC. If this fails,

Select the Control Panel. In the Address box, select the Down Select button. Browse to the C:\AM8000 folder. Browse in the AM8000 folder and find "amcfg.cfg" file.

Email this file to support@alphamicro.com identifying who you are, what your system serial number is, and the CPU PIC that you entered.

AM-113-45 MultiFunction Coprocessor

The AM-113-45 Multifunction Coprocessor board is a PCI compatible board that plugs into a 32-bit PCI slot on the Eagle 800 CPU board. It contains the following functions:

- SSD (Software Security Device) chip
- Four high performance serial ports
- Hardware timer
- Optional uninterruptible power source (UPS) monitor port
- Optional front panel display port

AM-113-45 MultiFunction Coprocessor Board Configuration

The AM-113-45 Multifunction Coprocessor board has been factory tested and shipped with its configuration jumpers set in their standard default positions, as shown in Figure 4. All jumpers should be left in their factory-configured positions. (JP4 and JP1-S2 installed)

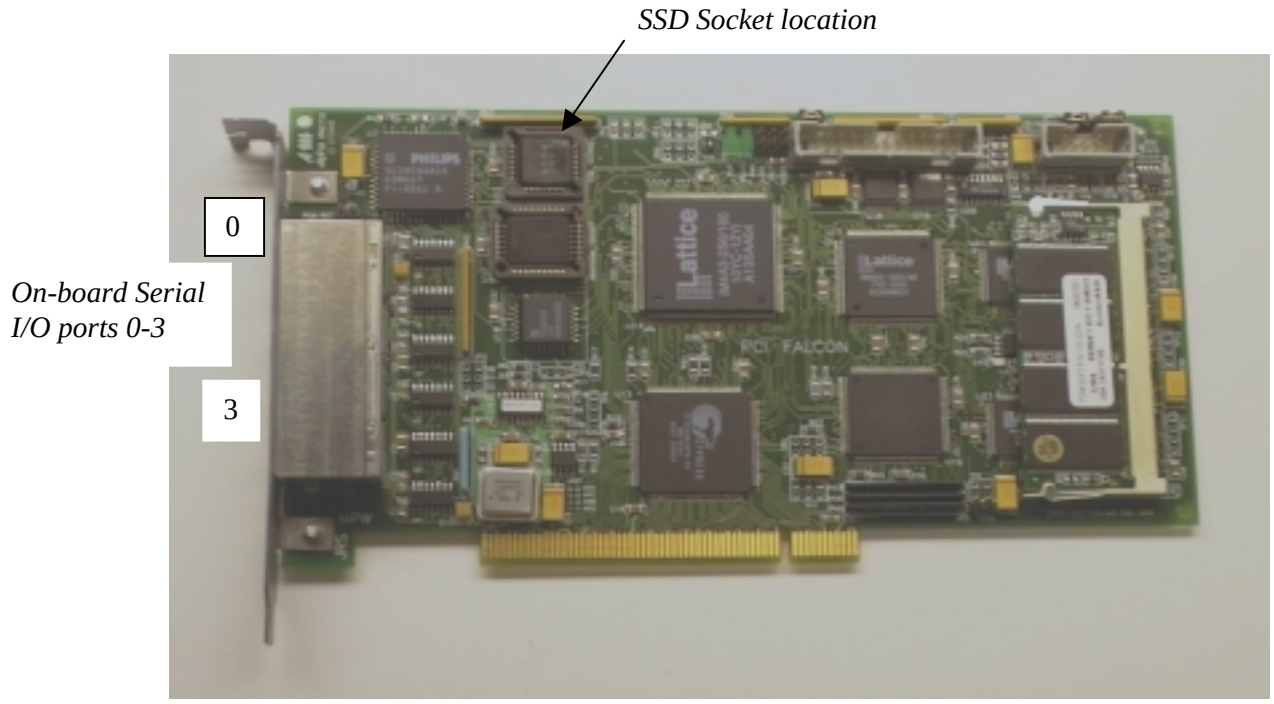

Figure 4: Eagle 800 Multifunction Coprocessor Board Configuration

Replacing the Time and Date Battery

When replacing the battery on your CPU board, always be sure to power-down the system first! DO NOT replace the battery with the power on! As always, when opening your computer chassis, take proper precautions against electrostatic discharge, which can seriously damage system components.

The board uses one three-volt lithium battery (part #CR2032) that will last for approximately two years. To remove the existing battery, which is about the size of a quarter, you must slide it out from under the top spring contact. It may be necessary to lift the top spring contact slightly to remove the battery from the plastic well that holds it in place. ***Do not bend the spring arm***, or you will lose the contact tension and the battery backup will be intermittent.

When installing the new battery, make sure the positive (+) side is facing up and the top spring arm contact is pressing down firmly to hold it in place.

After installing a new battery, the system BIOS setting will be reset to factory defaults. These are not optimized for the Eagle 800 Series III. See the following section for restoring your BIOS settings to the optimized settings.

Restoring Your BIOS Settings

Besides the time and date, the Eagle 800's battery also maintains the system setup parameters and boot device parameters These are stored in Eagle 800's on-board BIOS chip. Therefore, when you remove and replace the battery, your BIOS settings will be lost. After you install the new battery and turn system power on, you need to access the BIOS Configuration menu by pressing DEL during POST and restore your settings. Refer to Appendix A for the optimized settings for the Eagle 800 Series III.

If you do not use the BIOS configuration menu to restore your settings, the system will drop into standard factory defaults and boot the Eagle 800 with parameters that are not optimized for the system. Yet, when it does start to boot, the AlphaShell.Exe will boot the system with AM8000.MON and AM8000.INI as the system parameters.

Once the system is up and running, log to OPR: and enter the current time and date. Reboot the system to initialize the system up time.

SSD Chip Removal

The SSD chip is located at U12 on your AM-113-45 Multifunction Coprocessor board, as shown in Figure 4. The type of socket used for the SSD chip requires a special tool for chip removal. If you ever need to remove and replace this chip, be sure to use the correct tool, as shown in Figure 5.

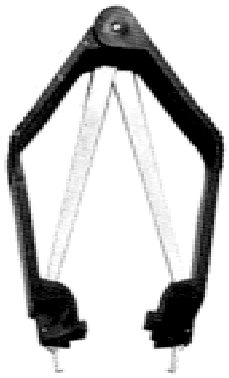

Figure 5: SSD Chip Removal Tool

UPGRADING EAGLE 800 ON-BOARD MEMORY

The Eagle 800 Series III CPU board has four on-board DIMM (dual inline memory module) connectors that support DDRII RAM modules. If installing two modules, make sure they are the same model type and capacity. Should you want to replace or upgrade any of these DIMMs, first remove the existing DIMMs, then install new ones, following the procedure below.

Removing Memory DIMMs

To remove a DIMM from its connector:

1. Press out on the retaining latches until the memory module pops up.
2. Lift the DIMM out of the connector

Installing Memory DIMMs

The Eagle 800 supports a minimum of 512MB and a maximum of 16GB of main memory. Before attempting to install any memory, make sure that the memory you have is compatible with the Eagle 800. Use Alpha Micro PFB-00723-XX or equivalent memory to expand your system.

To install memory expansion DIMMs in the Eagle 800 CPU board, use this procedure:

1. Install a DIMM in memory slot 1 (closest to the main CPU processor chip).
2. If installing a second memory DIMM, install it into memory slot 2. Use the same capacity memory DIMM, since dual channel technology is supported on this motherboard, doubling the bandwidth of the memory bus. If installing DIMMS into memory slots 3 and 4, follow the same guidelines as for slots 1 and 2.
3. Make sure that the DIMMs align properly with the memory slots. The modules are keyed to ensure that the memory DIMM is properly oriented.
4. Gently push the memory module into the desired slot. Once properly seated, the retaining latches on each end of the connector will close and secure the module into the slot. Sometimes you may need to close the latches yourself.

5. After installing the DIMMs, the next time you power on the system, the memory will be detected.

Currently, the maximum memory available to AMOS is 750MB. This limitation is imposed by memory utilization by the XP Embedded software. You may enter the AMOS RAM size in the *General* tab of the AM8000 configuration screen. It has a data input box with the current allocation in MB displayed. We recommend the following memory configurations for the various total available memory capacity:

Total Memory Installed	AMOS memory
512 MB	256 MB
1 GB	512 MB
2 GB	750 MB

PERIPHERALS

Your computer system cabinet can hold up to nine peripherals, making a wide range of configurations possible. The peripheral bays are structured as follows:

- Four 5-1/4” front accessible bays typically used to mount tape backup devices, DVDs, and other 5-1/4” removable media peripherals. Your DVD-RAM is mounted on one of these bays.
- Two 3-1/2” front accessible bays.
- One 3-1/2” drive cage (lower cage) that can hold up to three 3-1/2” peripherals, all internally accessible only. The main system disk is usually mounted in this drive cage.

Installing Additional 3-1/2” Peripherals

Locate the 3-1/2” drive cage and determine the location you want to install the new peripheral. The drive cage mounts disk drives that are totally contained within the system chassis.

To mount peripherals requiring front panel access, follow the instructions below:

1. To remove the front bezel, pull forward from the bottom and the plastic bezel will unlatch.
2. Use the smaller 3 ½” mounting ears to attach to a 3 ½” drive and slide into the lower 3 ½ drive bay.

Mount the peripherals into the drive cages using standard hardware. When you have completed the installation of each peripheral into the drive cage and reinstalled the drive cages into the chassis, plug in both power and signal cables into each peripheral.

Installing Additional 5-1/4” Peripherals

There are three metal plates covering the 5-1/4” drive bays. Select the position to mount the peripheral you want to install, and carefully use your hands to twist the metal plate back and forth until it breaks off. Don’t break off the plates covering the drive bays that you are not going to use. Then follow the instructions below:

1. For a full size peripheral that mounts in the upper two positions, take two of the drive rails that came with the system and mount them to the sides of the 5-1/4" peripheral. Make sure that the metal portion is angled away from the device and facing forward. The drive rails are usually fastened inside the chassis at the bottom.
2. Slide the device into the drive bay until you hear a click.
3. Mount any other devices accordingly.
4. Carefully press the plastic drive bay covers off the bezel and attach the bezel back into the chassis. Like the metal plates, take off only the covers for the drive bays you are using.

When you have completed the installation of each peripheral into the drive cage and reinstalled the drive cages into the chassis, plug both power and signal cables into each peripheral.

Additional Documentation for Peripherals

Each peripheral device sold by Alpha Micro is covered by its own set of installation instructions. The installation instructions include information on jumper settings, termination, and cabling. Before installing a peripheral, make sure you read the documentation pertaining to the device.

Please look in the C:\AM8000\DOC for additional documentation files stored there.

If the documentation was not included with your peripheral device, it is probably contained on the AlphaCD that is distributed to all Alpha Micro Value Added Resellers periodically, and can be found on the Alpha Micro web site, www.alphamicro.com in the Documentation section

DISK DRIVE REPLACEMENT AND GHOST RESTORE

There are a few situations that will require the system administrator to work with disk drives and DVD media from the AM-8000 Tools. All these procedures must be done on the system console.

- Formatting DVD-RAM media
- Accessing the AM8000 Tools
- Adding another hard disk.
- Restoring the AM-8000 to a new or empty hard disk.
- Restoring just one **AMD** files from a Ghosted backup.

Before beginning any of these procedures, make sure you have a current Eagle 800 "Bootable Recovery DVD". PLEASE backup the current System Volume and Data Volume.

The following instructions list the screen titles, important options, and the actions you should take using the following syntax:

<Screen or box Title or Application Program top line >
<Selected item> *action for you to do* **(keyboard input) (keyboard key)**
or <Selected item> mouse *Select*> **{menu item}**

<Menu> *action key press* (**keyboard**)
or <**Menu**> ***Select***> {menu item} [scroll box] with mouse left click
[Radio Button] mouse *Select* or ENTER
(Action notes and choices)

Select> [program option] or *Select*> <Title> menu1> menu2> menu3> [program option]

To select the last “program option”, you need to make multiple left button selects with the mouse of each menu number to reach the correct program selection.

System Administrative Tools

Accessing the AM8000 Tools

To use the AM8000 System tools there are two ways to gain access. Use the Tools menu or typing the specific XCMD from AMOS on the console terminal.

Press ALT TAB until the AM8000 System Diagnostic screen appears.
Press ALT **T** will open the <Tools> menu.

Or while in AMOS on the VTM1 console terminal

Type **XCP** to launch the Control Panel application
Type **XPLORE** for the windows explorer
Type **XDISKS** to use the Windows Disk Management tool.

This gives you access to various XP-Embedded tools (for formatting disks, etc.) and to Norton Ghost for creating "Bootable Backup Recovery DVD” and other DVD/CD data backups. The system administrator should know how to use Windows utilities and how to use Norton Ghost software.

Formatting DVD-RAM Media

To format the DVD-RAM media follow this procedure. First launch the <Windows Explorer> application by typing XPLORE from the VTM1 terminal.

1. *Select* and *Right Click* with the mouse on the DVD-RAM drive E:
2. *Select*> {InCD Format}
3. *Select* > {Format} radio button. From this window *type in* a Volume Label: (**AMOS1**)
4. *Select* > [Start] button.

When the process is finished, an Explorer window of the E: drive will be displayed. Then you may right click and add an AM8000 folder. Now the DVD-RAM is ready to use from XP Embedded. You can copy **AMD** files to the DVD-RAM. This process is rather slow, and AMOS should be stopped while copying a large file to the DVD-RAM. Copying a 4 GB **AMD** file to the DVD-RAM takes about 2 hours.

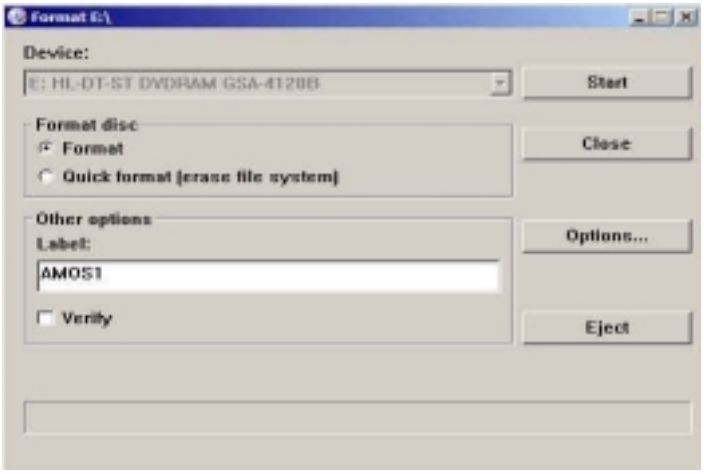

Figure 6: Format DVD-RAM Media

Accessing the AM8000 Disk Management screen

Many of these administrative tasks require access to the AM8000 Disk Management screen. On the console terminal *type* **XDISKS** to start the application or follow the procedure below. You may also use the mouse to point the Menu Item and click to select. The manual keyboard method is outlined below.

Press [ALT] [TAB] *to:*
<AM8000 System >
Press [ALT]/**T** (opens Tools)
Press [↓] *to:* {Control Panel} *Press* [ENTER]
<Control Panel>
Press [↓] to {Administrative Tools} *Press* [ENTER]
<Administrative Tools >
Press [↓] *to* {Computer Management} *Press* [ENTER]
<Computer Management>
Press [↓] *to* {Storage} *Press* [→]
Press [↓] *to:* {Disk Management} *Press* [TAB] *and* [TAB]

Use the arrow keys to move between the various drives (usually Disk 0 and Disk 1). The [→] and [←] will select various partitions on each Disk. You should see each physical drive or drives on the system with drive sizes and partition sizes.

Adding another hard disk

When adding another hard disk drive there are some additional steps necessary before loading software:

Physically install the new hardware.

The disk drive should have a SATA interface. Use the flat SATA data cable and plug into the next available SATA port on the Main board. Connect the SATA Power cable to the drive with the yellow wire to the outside edge of the drive. Configure the new drive by either:

a. Manually allocating the drive partitions and format each partition.
b. Doing a Ghost restore of a recent full backup to the new hard disk.
See the "*Restoring the AM-8000 System Volume"*.

Once you add a new drive to the system that is not formatted, it will be displayed in the lower panel with a Black Bar. First, we must allocate a partition.

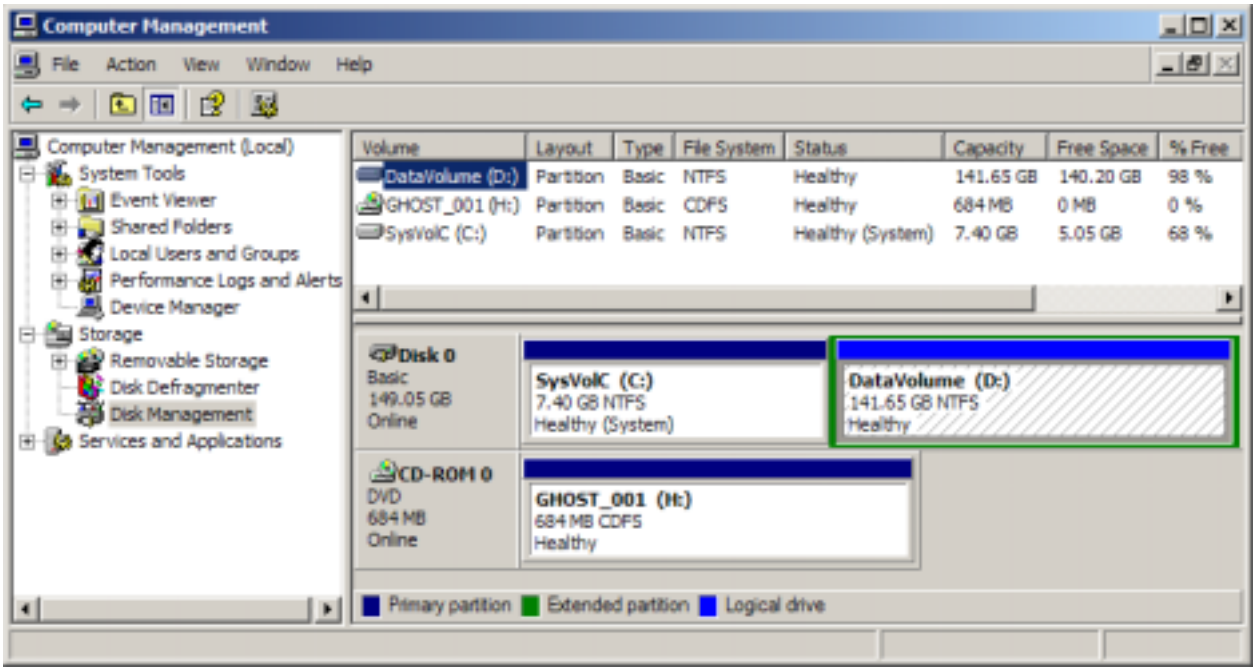

Figure 7: Disk Management

1. Right click on Disk 1 black bar in the lower panel and *Select*> {New Partition}
2. The < New Partition Wizard> will display. *Select*> [Next].
3. <Select Partition Type> *Select*> {Primary partition} > [Next].
   (You can only boot off of a primary partition)
4. <Specify Partition Size> the Partition Size in MB *type in* **7577** *select*> [Next] button.
5. Allow the program to assign the next drive letter. *Select*> [Next] button.
   <Format Partition> { Format this partition with the following settings:}
   File System: NTFS
   Allocation unit size: Default
   Volume Label: *type in* (**SysVol2**)
   Check the {Perform a Quick format box}.
   Select > [Next] button.
   Select > [Finish] button.

6. When XPE finishes formatting the drive, the display will look like this. Sizes here are for Series 2, smaller sized drive.

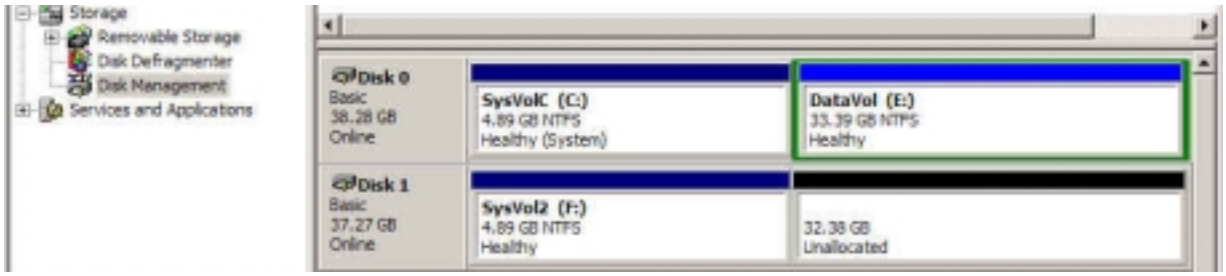

Figure 8: Creating SysVol2

7. To set the new SysVol2 **Active** *right click* on F: and *Select* > {Mark Partition as Active}
8. Now we need to format the second partition. *Right Click* on the black bar and *Select* > {New Partition }
9. The< New Partition Wizard> will display. *Select*> [Next].
10. <Select Partition Type> *Select*> {**Extended partition**} > [Next].
11. <Specify Partition Size> the Partition Size in MB *type in* **145047** *select*> [Next] button.
12. *Select* > [Finish] button. This will create a new Light green partition.
13. *Right Click* on the Light Green bar and *Select* > {New Logical}
14. The< New Partition Wizard> will display. *Select*> [Next].
15. <Select Partition Type> *Select*> {Logical drive}> [Next].
16. <Specify Partition Size> the Partition Size in MB *type in* **145047** *select*> [Next] button.
17. Allow the program to assign the next drive letter. *Select*> [Next] button.
    <Format Partition> { Format this partition with the following settings:}
    File System: NTFS
    Allocation unit size: Default
    Volume Label: *type in* (**DataVol2**)
    Check the {Perform a Quick format box}.
    Select > [Next] button.
    Select > [Finish] button.

18. When XPE finishes formatting the display will look like this.

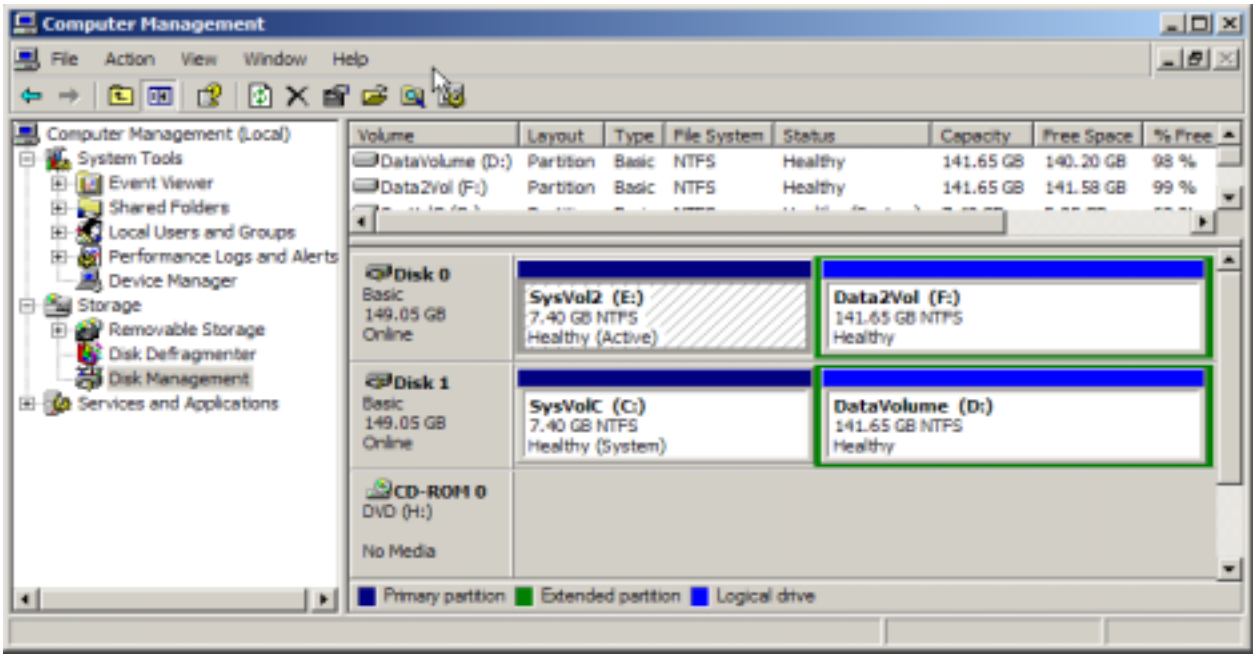

Figure 9: Creating DataVol2

Now to configure the new drive for AM8000 operation we need to:

1. Copy the desired sub-directories to the new partition using Explorer; or
2. Create the desired sub-directories using Explorer, then create the desired AMOS **AMD** pseudo drive using the AM8000 configuration process.
3. Or use Ghost to restore the **AMD** pseudo drives and other files.

Restoring the AM-8000 System Volume

This procedure to restore the system drive from the Bootable Ghost Recovery DVD is the best way to create a bootable System Volume. This procedure can be done to any hard disk, including the original drive or a new, larger "subsystem" drive. Ghost can restore one or more partitions. Ghost can also partition and format hard disks. All of these procedures may destroy previous data, so use caution when performing them.

Ghost Restore Process

The Ghost Restore process is normally used when a new replacement hard drive is installed. All system settings and configuration settings must be re-entered for the AM8000 Server installation. The AMOS Bootable Ghost Recovery DVD shipped from Alpha Micro has the default settings and the original disk files. Any patches or Customer data applied to the Server after installation will be missing.

The system administrator should perform a Ghost backup to a file of the C: SystemVolume any time there is a configuration change to the Server. This up-to-date backup will contain all the information about the specific installation. Then this backup should be copied to alternate media and labeled and stored for future use.

If the boot **AMD** disk file was on the first disk partition, then the installation's **AMD** disk files will have to be regenerated and the application software MTURES'ed back onto the pseudo drive. If the system administrator places the AM8000.AMD boot disk on the D drive, it will also have to be restored from the D: Data Volume backups. After a Ghost restore to a new disk drive, if you have additional backups of just the **AMD** disk files then you are safe. These **AMD** files will need to be copied to the correct locations and then Configured in the AM8000 program as described in Chapter 3 of the AMOS 8.x Servers Owner's Manual.

System Software Load from Ghost DVD or Drive Image Backup

The numbered procedure below is used to load an empty hard drive with the AMOS 8.1 Bootable Recovery DVD. At the console, follow the procedure by executing the Keyboard commands. Read the screen titles and responses and take the appropriate action. Please be very careful with this procedure while entering the C: System Volume disk size. If the size is larger than what the hard drive was partitioned for originally, the data on the E: DataVolume drive will get written over! For an empty drive you must do a Disk restore to correctly write the boot sector on the drive to make it bootable.

1. Power system up, place the Bootable DVD in the drive and boot the system from the DVD-RAM drive.
2. The Console Screen will display .
   < Press any key to BOOT from DVD-RAM> *Press* SPACE
3. The first screen displayed is < About Norton Ghost> will ask for <OK> *Press* ENTER
   Note: Anything that is highlighted in White is the command that is *selected*.
4. In the <Symantec> menu is selecting <LOCAL > *Press* ENTER.
5. The <Action menu> {DISK} *is highlighted.* Selecting DISK will overwrite all partitions on the Drive selected. Either *Press* ↓ *to* select {Partition} or *Press* ENTER for Disk.
   a. **If selecting** a Disk Restore, in the <Disk menu> *Press* ↓ twice *to select* {**From Image}**, then *press* ENTER
   b. **If selecting** a Partition Restore, Press ENTER to select the <Partition menu> *Press* ↓ twice to *select* {**From Image**}, then *press* ENTER.
6. <Image file Name to Restore from> menu
   a. *Type* SHIFT TAB *to select* < Look in: ><A> press ENTER
   b. Now a pull down menu shows all drives. We must select the { @DVD-RAM drive } or *press* ↓ to select the DataVolume which contains an image save of the C System Volume. ↓ to select {Backups} and *press* ENTER. The filename of the C volume will have a name like *S3Eagle800sn100VolC.gho*, ↓ to select the most current dated file and *Press* ENTER if not skip this step and select the DVD-RAM drive. Go to step 8.
   c. Or *press* ↓ *to* < **@DVD-RAM**> *press* ENTER. <Ghost CD/DVD Image> is highlighted in the main window. *Press* ENTER. Go to step {**9**}.
7. For a Partition Restore: If you had selected this option the next menu will be
   <Select source partition from image file> and will display
   {Part 1, Primary, Id=07, Description NTFS, Label SystemVol1, Size 7577}
   Press TAB to select [Ok] and *press* ENTER to continue.
   Or *Press* ↓ to select the correct physical drive
   Or *Press* ESC to quit.
8. For either a Disk Restore or Partition Restore. The next screen will display
   <Select local destination drive by clicking on the drive number>

If you have more than one drive they both will be displayed so be careful which drive you are selecting.

a. Drive 1 is highlighted either *press* [TAB] *to select* or
b. *Press* [↓] to select the correct drive number.
c. To select {**OK**}, *press* [ENTER].

9. For a Disk Restore skip to the step {**11**} for a Partition Restore the menu will say;
<Select destination partition from Basic Drive: 1>
Either you will have 1 or 2 partitions, Select the Primary one and *press* [ENTER].
Skip forward to step {**13**}
10. For Disk Restore. In the <Destination Drive Details> menu
{1 Primary NTFS, Disk Load, New Size 39197} an input box is highlighting the New Size or use the Old size number which the drive was partitioned for which is displayed on the right.
{In Destination drive details} –
[BACKSPACE] to delete new size and *type* in (**your number)** if the number displayed is wrong.
Type the number written on the left side of the DVD label. Examples below:
C:**7577** is the Eagle 800 Volume size for Series III systems.
C:**5004** is the Eagle 800 Volume size for Series II systems.
C:**19602** is the Eagle 800 Volume size for early systems.
C:**19092** is the value of some Eagle 800 Internal RAID systems.

Press [ENTER]. If the drives were resized during the manufacturing phase, the new number will be written on the DVD label. If the number being entered is larger than the original C: drive size, the next partition the D: drive will get written over and you will loose the D: drive data. Be very careful and accurate.
11. *Press* the [TAB] key *to select* {**OK**}, *press* [ENTER].
12. The message box will display and ask
<Proceed with disk restore?
Destination drive will be permanently overwritten>

13. Now to start the <Norton Ghost restore>, [No] is highlighted so you can cancel this operation if you wish. *Press* the [←] *to* {**YES**}, then *press* [ENTER] to execute the Restore.
14. Allow the Ghost Software to restore the data. This takes about 10 minutes for the first logical. After the drive is loaded from DVD, Ghost will ask to <Reset Computer> *Press* [ENTER] and allow system to restart.
15. *Eject* the DVD and remove it. Place it back in the storage jewel case.
16. When the system restarts, *press* the [ESC] key on the keyboard during the 5-second count down.

Execute the windows <Explorer> application and inspect the C: and D: volumes. If the drive was empty, the operator must initialize the D: DataVolume drive as described earlier in this document.

Getting to a Production Configuration

If you had changed any of the AM8000 configuration information since creating the bootable backup DVD, such as adding Microsoft Network printers, COMxx ports, SCSI devices, firewall settings, etc., then you will need to repeat those changes.

In addition, the AM8000.INI, and other customized .INI files, and perhaps even the AM8000.MON, may not be current. Production versions are normally on the AMOS 8.1 **AMD** disks on the "Data Volume". AFTER restoring the latest backup (see below), these can be updated by simply MONTSTing from the latest backup copies - like MONTST AM8000 which will re-syncronize the "System Volume" copies.

If the "Data Volume" partition (usually D:) was restored, then restoring the production system is done. If this was the most recent backup of the AMOS data, then the whole procedure is done. If there is no "Data Volume" (it was not on the backup), then create a data volume using the New Partition Wizard described earlier in this manual.

If necessary, create an AMOS **AMD** pseudo drive using the AM8000 configuration process described in the *AM-8000 Server Owner's Manual*. Generally we recommend disks of 4 GB or less so that each will fit on a DVD-RAM media. However, the choice is yours: Using a large tape drive or the Ghost compression will allow backing up much larger **AMD** files.

Proceed with restoring the last AMOS backup as appropiate to the backup procedure used. Then, as mentioned above, use MONTST to re-syncronize the "System Volume" copies of the important .MON and .INI files. If you used the above procedure to install a "sub-system" drive, you can change the motherboard BIOS settings to boot off of the newly defined disk drive.

Restoring just one AMD file from a "Ghosted" backup

If you want to access a few files from a Ghosted backup, you can copy the appropriate **AMD** file from the Ghosted backup to the hard disk, configure this copy of the **AMD** file as a sub-system drive in the AM8000 AMOS Disks configuration screen, and if necessary, add it to the booting .INI file. Then you can access all of the AMOS files in the **AMD** drive disk file.

The special part is getting the **AMD** disk file from the Ghosted backup. This is done using the Ghost Explorer:

Open Ghost from the AM8000 Tools menu (see above).
Select the Ghost Utilities (↓ to Ghost Utilities and press ENTER).
Then select Ghost Explorer (TAB to Ghost Explorer and press ENTER).
In Ghost Explorer, Open the appropriate drive letter and Ghost file.
Select the desired **AMD** file.
Finally, <Extract> the file to the desired location.

Remember that if AMOS is active and the filename of the disk file is the same as the one open, and the destination is the same folder, Ghost Explorer will not be able to complete this function. Exit AMOS and then you may write the disk file back to the active location.

ON-LINE DOCUMENTATION

There is on-line documentation on each system. The Adobe Acrobat Reader is also installed on the system and can be used on the Console to review the PDF documentation files. To access the PDF files, use the Control Panel interface to browse to a directory and find the PDF file you desire to read. Double click on the PDF filename and the Acrobat reader will launch and display the document.

We highly recommend that you read the Norton Ghost Guide on the workings of this useful Backup and Restore utility.

APPENDIX A - EAGLE 800 SERIES III OPTIMAL BIOS SETTINGS

GA-M61P-S3 Motherboard

To Enter Setup press DEL during the POST process to enter the motherboard AWARD BIOS setup. Use arrow keys to move the cursor to highlight the field to change. The items in **bold** are the AMOS specific changes from the "Default" values. The data below reflects **Bios Version 3.31a**.

```
[Standard CMOS Features]
      System Date                  [Jan/14/2008]
      System Time                  [08:24:00]        Current date & time!

      > IDE Channel 0 Master       [TSSTcorp CDDVDW SH-S]
      > IDE Channel 0 Slave        [None]
      > IDE Channel 2 Master       [ST3160815AS]
      > IDE Channel 3 Master       [None]
      > IDE Channel 4 Master       [None]
      > IDE Channel 5 Master       [None]

      > Drive A                    [None]
      > Floppy 3 Mode Support      [Disabled]
      > Halt On                    [All, but keyboard]

[ADVANCED BIOS FEATURES]
      AMD K8 Cool&Quiet control    [Auto]
      > Hard Disk Boot Priority
        1. Ch2 M.                  : ST3160815AS
        2. Bootable Add-in Cards.

      First Boot Device            [CDROM]
      Second Boot Device           [Hard Disk]
      Third Boot Device            [USB-CDROM]
      Password Check               [Setup]
      HDD SMART Capability         [Disabled]
      Away Mode                    [Disabled]
      Full Screen Logo Show        [Disabled]
      Init Display First           [Onboard VGA]
      Frame Buffer Size            [64M]
      Onboard GPU                  [Always Enable]

 [Integrated Peripherals]
      Serial-ATA Raid Config       [Press Enter]
       NV SATA Raid function       [Disabled]
      On-Chip IDE Channel 0        [Enabled]
      On-Chip MAC LAN              [Auto]
      NV-Serial-ATA Controller     [All Enabled]
      IDE Prefetch Mode            [Enabled ]
      USB Memory Type              [Shadow]
      On-board Audio Function      [Disabled]
      On-board 1394                [Enabled]
      Smart LAN                    [Press Enter]
      Onboard LAN Boot Rom         [Disabled]
      Onboard Serial Port 1        [3F8/IRQ4]
      Onboard Serial Port 2        [2F8/IRQ3]
      Onboard Parallel Port        [378/IRQ7]
```

```
      Parallel Port Mode            [SPP]
      On-Chip USB                   [V1.1_V2.0]
      USB Keyboard Support          [Disabled]
      USB Mouse Support             [Disabled]
      Legacy USB Storage detect     [Enabled]


 >[Power Management ]
      ACPI Suspend Type             [S1(POS)]
      Soft-Off by Power Button      [Delay 4 Sec]
      PME Event Wake Up             [Enabled]
      Modem Ring on                 [Enabled]
      USB Resume from Suspend       [Enabled]
      Power-on by Alarm             [Disabled]
      HPET Support                  [Enabled]
      HPET Mode                     [32-bit mode]
      Power On by Mouse             [Disabled]
      Power On by Keyboard          [Disabled]
      AC Back function              [Full-On]


 >[PnP/PCI Configurations]
      PCI 1 IRQ Assignment          [Auto]
      PCI 2 IRQ Assignment          [Auto]
      PCI 3 IRQ Assignment          [Auto]
      PCI 4 IRQ Assignment          [Auto]

>[PC Health Status]
      Reset Case Open Status        [Disabled]
      System Warning Temperature    [60C/140F]
      CPU Warning Temperature       [60C/140F]
      System Fan Fail Warning       [Enabled]
      System Fan Fail Warning       [Disabled]
`     CPU Smart FAN Control         [Enabled]
      CPU Smart Fan Mode            [Auto[]
      System Smart Fan Control      [Enabled]

>[MB Intelligent Tweaker]
      CPU Frequency (MHz)           [200]
      PCIE Clock (MHz)              [100]
      CPU Clock Ratio               [Auto]
      Robust Graphics Booster       [Disabled]
      CPU HT-Link voltage           [Normal]
      Chipset Voltage Control       [Normal]
      DDR2 Voltage Control          [Auto]
      CPU Voltage Control           [Normal]


[Save and EXIT Setup]
      Exit Saving Changes           [yes]
```